

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 5-8 and 10-12 are pending in the application. Claims 1-4 and 9 have been canceled without prejudice or disclaimer. Claims 5, 8 and 10 are independent and are amended.

The following remarks are believed to be fully responsive to the Office Action, and to render all the claims at issue patentably distinguishable over the cited references. Reconsideration of this application is respectfully requested.

Claim Rejections Under 35 U.S.C. § 102(b)/103(a)

Claims 5-6, 8 and 10-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,698,454 to Zommer. Claims 5-7 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,614,445 to Hirabayashi in view of U.S. Patent No. 6,159,826 to Kim et al. These rejections are respectfully traversed.

While not conceding the appropriateness of any of the rejections, but merely to advance prosecution of the instant application, independent claims 5 and 10 are amended to recite a combination of steps in a method for manufacturing a semiconductor device, including "forming scribe lanes of the first conductivity type in the semiconductor substrate, said scribe lanes defining chip formation areas and containing only an unetched portion of the

semiconductor surface." Independent claim 8 is amended to recite a combination of steps in a method for manufacturing a semiconductor device, including "forming scribe lanes **of the first conductivity type** in the semiconductor substrate, said scribe lanes defining chip formation areas."

It is respectfully submitted that the combinations of steps set forth in independent claims 5, 8 and 10 are not disclosed or rendered obvious by the prior art of record, including Zommer, Hirabayashi or Kim et al.

Zommer discloses a method for forming a power integrated circuit device including a semiconductor layer of a first conductivity type. As shown in Fig. 5, the semiconductor layer includes a front-side surface 103, a backside surface 116 and a scribe region 117. As to the formation of the scribe region 117, it is described that a p-type region 701 is defined at the scribe line in the n-type semiconductor substrate, a p-type region 703 is also defined from the backside of the substrate, and a diffusion is subsequently performed to connect both the p-type regions 701 and 703 to each other, resulting in forming the p-type scribe region in the n-type semiconductor substrate. See Figs. 5 and 11 and column 6, lines 39-56. As such, according to Zommer, the scribe region 117 contains a diffusion region of the second conductivity type in the semiconductor substrate of the first conductivity type. In contrast, the present invention discloses forming scribe lanes of the first conductive type in the semiconductor substrate of the first conductivity type, as required by

claims 5, 8 and 10. Furthermore, Zommer does not teach and suggest "said scribe lanes... containing only an unetched portion of the semiconductor substrate" as recited by independent claims 5 and 10.

In rejecting claim 5, the Office Action further relies on the combination of Hirabayashi and Kim et al. As conceded on page 4 of the Office Action, Hirabayashi fails to disclose scribe lanes containing only an unetched portion of the semiconductor substrate. The Office Action turns to Kim et al. for this teaching. However,

Furthermore, according to amended 103(c) as effective from November 29, 1999, Kim et al. does not qualify as prior art in the present application, which has been filed after November 29, 1999, since Kim et al. and the present application were, at the time the present invention as made, subject to an obligation of assignment to the same entity, "Hyundai Electronics Industries Co., Ltd." As a result, the Kim et al. patent is disqualified as available prior art under 35 U.S.C. §103, thereby automatically overcoming the rejection under 35 U.S.C. §103(a).

In view of the foregoing, it is respectfully submitted that the prior art of record, including Zommer, Hirabayashi and Kim et al., fails to teach or suggest the combinations of elements set forth in the independent claims. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §102(b)/103(a) are respectfully requested. It is believed that the independent

claims are allowable. Since the remaining claims depend from these allowable independent claims, they are also allowable for at least the above reasons, as well as for the additional limitations provided thereby. Thus, all claims are allowable.

CONCLUSION

In light of the above amendments and remarks, Applicant submits that all pending claims currently presented are in condition for allowance. Accordingly, Applicant respectfully requests that Examiner pass this case to issue

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Sam Bhattacharya, Registration No. 48,107, at (703) 205-8000, in the Washington, D.C. area.

Application No. 09/820,217
Art Unit 2822

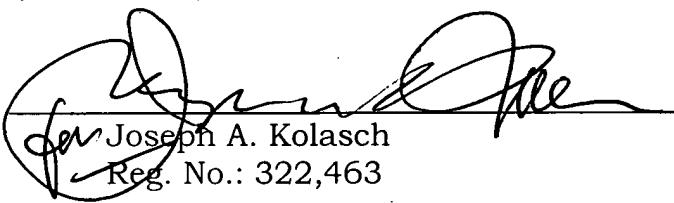
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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